

## NEW SPECIES OF NORTH AMERICAN COLEOPTERA

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## CARABIDAE

*Trechus humboldti* Van Dyke, new species

Rather small, robust yet gracefully formed, rufopiceous with antennae, legs and ventral surface rufous. *Head* broadly elevated at middle, bounded laterally by deep arcuate sulci, the occiput smooth or very minutely rugose posteriorly, the eyes moderately prominent, and antennae somewhat moniliform and reaching behind base of prothorax. *Prothorax* about as broad as long, cordiform, apex emarginate, sides arcuate in front, sinuate behind with hind angles right angled, margin rather broad, reflexed and wider behind, disk convex, smooth and shining, with deep median longitudinal groove extending from anterior transverse impression to base, and with a broad and deep impression within each hind angle. *Elytra* oval, about twice as wide as prothorax, moderately convex, with seven striae, the four inner ones deeply impressed, complete and distinctly punctured, the outer ones feebler, and two small foveae on third striae, one near base, the other at middle. Beneath smooth and shining. Length 4.5 mm., breadth 2 mm.

*Holotype* (No. 5434, Mus. Calif. Acad. Sci., Ent.), a unique male, collected by myself in the dense redwood region near ORICK, HUMBOLDT COUNTY, CALIFORNIA, July 5, 1931.

This very graceful species probably belongs to the group with *ovipennis* but it differs from it and its relatives by having a longer and cordiform prothorax, quite transverse in *ovipennis*, the elytra more distinctly oval, quite elliptical in most *ovipennis*, and very distinctly and deeply striate on the disk. Though most specimens of *ovipennis* have been collected in the San Francisco Bay region, it does extend along the coast as far north as British Columbia and of course is to be found in Humboldt County. Specimens of a phase of *Trechus chalybaeus* Mann., a more northern species, have also been collected only a short distance north of Orick, at Crescent City.

### *Badister mexicanus* Van Dyke, new species

Moderate in size, black, antennae, legs and mouth parts testaceous; narrow side margin of prothorax and elytra, as well as epipleurae somewhat rufous, head and pronotum alutaceous and somewhat dull, the elytra shining and iridescent. *Head* with eyes quite prominent, the antennae reaching three segments beyond hind margin of prothorax. *Prothorax* about twice as wide as long, almost one-fourth broader than head, apex emarginate, sides arcuate in front, straight and converging behind, the hind angles obtuse, feebly rounded, the lateral margin narrow and slightly reflexed; the disk with median longitudinal line deeply impressed, the anterior transverse impression quite evident and the posterior impressions extensive. *Elytra* about one-fourth longer than broad, a third broader than prothorax, base emarginate, sides almost straight and feebly divergent to posterior fourth, thence gradually rounded to apex; the disk feebly convex, all striae complete and well impressed, the intervals flat, second striae with two vague foveae and the marginal striae with numerous punctures. Beneath smooth and shining. Length 5.5 mm., breadth 2.75 mm.

*Holotype* female (No. 5435, Mus. Calif. Acad. Sci., Ent.) a unique specimen collected at OAXACA, MEXICO, July 20, 1937, and received from the collector, M. A. Embury.

This species, the first of the genus to be found in Mexico, would appear to be most closely related to our well-known *micans* Lec. It differs from the latter by being more robust, proportionally broader, with the elytra less parallel-sided, the antennae not at all piceous, the lateral lighter colored margins of both prothorax and elytra narrower and the elytral striae more deeply impressed.

## MONOTOMIDAE

### *Hesperobaenus fenyessi* Van Dyke, new species

Elongate, subdepressed, rufous, antennae and legs lighter in color, the entire upper surface alutaceous. *Head* flattened above, rather coarsely, closely punctured, eyes moderately prominent, with sides behind eyes parallel to posterior constriction. *Prothorax* slightly longer than broad, disk feebly convex, the coarse punctures approximately their own width apart, sides straight or very feebly arcuate and convergent to base, with margin crenulated, the base finely margined. *Elytra* over twice as long as broad, about one-fourth longer than forebody and perceptibly broader, striae finely, sharply impressed and rather finely punctured, the punctures their own width apart in general and with short recumbent setae arising from them, the intervals broad and

flat. Beneath rather finely, sparsely punctured in front and behind more coarsely punctured on the metapleurae. Length 2.75 mm., breadth 1 mm.

*Holotype* (No. 5436, Mus. Calif. Acad. Sci., Ent.) and seven paratypes from PASADENA, CALIFORNIA, six collected in March and two in July, by Dr. Adalbert Fenyés. Besides these specimens in the Fenyés collection, we have in the Academy collection, three from SIERRA MADRE, LOS ANGELES COUNTY, February 17, 1909, in the Van Dyke collection, one from POWAY, SAN DIEGO COUNTY, in the Blaisdell collection, and one from the PLACER RANGER STATION, MADERA COUNTY, collected on *Alnus rhombifolio* by E. F. Wohletz.

This species superficially resembles *Hesperobaenus rufipes* Lec. from the eastern part of the country. It differs by being in general a bit smaller, by having the sides of the head back of the eyes parallel, not prominently angulated, the prothorax evidently longer than broad, with sides less parallel, and the elytra more finely striato-punctate. It seems to be dominantly a southern California species that has apparently been overlooked. Our other species in the genus are all more or less bicolored like the common Pacific Coast *abbreviatus* Mots.

#### MELASIDAE

##### *Hylus* (*Hypocoelus*) *arizonicus* Van Dyke, new species

Robust, somewhat elongate, subparallel; coal black, subopaque, apex of last antennal segments and tarsi rufous, the upper surface clothed with a rather sparse, very short, closely appressed pile, only evident on good magnification. *Head* convex, with a slight transverse impression forwards, sulcate between the eyes, clypeus narrowed at base and transversely impressed at middle, the entire head finely, densely, umbilicately punctured and alutaceous; antennae about reaching hind angles of prothorax, rather robust, second segment small, third long, about one and a half times as long as broad, segments 4-6 short and transverse, 7-8 somewhat broader, and 9-11 considerably broader and longer, forming an elongate club, the tenth the shortest and the eleventh acute at apex; the eyes moderately prominent. *Prothorax* slightly broader than long, apex transverse, sides straight and parallel behind, arcuate from middle and gradually convergent towards apex, base bisinuate and hind angles acute, prominent and extending backwards; the disk convex, with a well impressed median longitudinal line, the surface rather finely, densely umbilicately punctured and alutaceous, the base with a definite margin. *Elytra*

with striae well impressed, the strial punctures more or less vague, the intervals feebly convex and finely rugose. Beneath densely punctured, more coarsely in front and more finely behind and alutaceous. Hind coxal plates triangular. Length 7 mm., breadth 2.5 mm.

*Holotype*, presumably a male (No. 5437, Mus. Calif. Acad. Sci., Ent.) a unique collected by myself high up in the CHIRICAHUA MOUNTAINS, ARIZONA, July 16, 1942.

This very distinct species is one of our larger species, but little smaller than the recently described *robustus* Van Dyke. It may be readily distinguished from all of our species by its size, its coal black color, and rather short antennae which have the three terminal segments gradually though definitely enlarged so as to form an elongate club.

#### BUPRESTIDAE

#### *Acmaeodera lagunae* Van Dyke, new species

Robust, cuneiform, moderately flattened, aeneous, the elytra generally with a more greenish lustre than the forebody though often the reverse, upper surface moderately clothed with rather long, erect, dark pile, the under surface with a sparser, more depressed, gray pile; the pronotum immaculate, the elytra with variable markings though the general pattern is as follows: the third and fifth intervals spotted with yellow at base, the third usually with a few additional scattered spots, the lateral interval yellow for at least its basal third but the marking not quite reaching the basal margin, and from three to four conspicuous transverse maculations, the largest at the middle, irregular, and extending inwards to about the fifth interval, a narrower one, one-half the distance between this and apex, and one to two smaller, often interrupted maculations between this latter and apex. *Head* coarsely, densely punctured, longitudinally impressed at middle; antennae extending beyond middle of prothorax, segments 5-11 moderately serrate. *Prothorax* somewhat more than twice as broad as long, expanded at the posterior third where broader than elytra; the disk coarsely punctured, the punctures well separated at center, approximate laterally, a broad, somewhat triangular, longitudinal impression at center and moderately well impressed foveae between this and basal angles, the lateral margin well developed, completely, feebly reflexed, yet because of incurving not seen near base when viewed from above. *Elytra* moderately flattened, striae only distinctly impressed at sides and towards apex, strial punctures coarse and closely placed at sides, much finer and better spaced near suture, the intervals on disk flat and with a few fine, scattered punctures, the third and fifth often elevated near base,

the humeral umbone also prominent, the lateral intervals generally quite convex especially posteriorly. Beneath, but moderately, rather sparsely punctured in front, more coarsely and densely on posterior ventral segments. *Prosternum* feebly retracted and bisinuate at apex, last ventral with distinct, transverse plate near apex. Length, type, 10 mm., breadth 4 mm., length in series varies from 7 mm.-11 mm. and breadth from 2.5 mm-4 mm.

*Holotype* (No. 5438, Mus. Calif. Acad. Sci., Ent.) and numerous designated paratypes from a series of sixty-five specimens, collected by E. S. Ross and G. Bohart, at LA LAGUNA, SIERRA LAGUNA, LOWER CALIFORNIA, October 14, 1941.

This species is undoubtedly related to *Acmaeodera scapularis* Horn and the larger specimens closely simulate it, and both are confined to the Cape Region of Lower California. *Acmaeodera lagunae* differs from *scapularis* by being proportionally less broad in front, by having the prothoracic margin complete and by never having a yellow spot near its base, by having the pronotal impressions far less pronounced, the fifth elytral interval never carinate as it is in *scapularis* and the strial punctures never as coarse near the suture as they are in the other, where all strial punctures are quite similar, very coarse and approximate. The color pattern is quite similar but the median bar is generally very broad in *scapularis*. The color pattern of *Acmaeodera flavostica* Horn is even closer but this species is proportionally shorter and belongs in another group.

#### *Acmaeodera transversa* Van Dyke, new species

Elongate, subcylindrical, of moderate size, black, elytra feebly bronzed, pronotum immaculate; elytra with a short, transverse yellow bar near base extending from second to sixth interval, a narrow transverse yellow bar extending from the second to eighth interval situated at the middle, a narrow oblique yellow bar extending from the third to sixth interval, midway between preceding and apex, a short transverse spot, also yellow, extending from second to fourth interval, a short distance in front of apex, a small elongate yellow spot behind the humeral umbone and a bright red spot of fair size at the outer extremity of the oblique bar which extends outwardly from the eighth to the eleventh or marginal interval. *Head* with well spaced, rather coarse punctures, a feeble longitudinal impression at middle, antennae short, barely reaching middle of prothorax, segments 5-11 serrate, and with short, sparse, semierect gray pile. *Prothorax* one-third broader than long, a little narrower than base of elytra, apex feebly bi-emarginate, sides moderately arcuate, gradually narrowing from

base to apex, the lateral margin narrow, not readily visible when viewed from above because of the bulging sides of pronotum and dense pile placed along the sides, the disk convex, rather coarsely and densely punctuated medially, with a sparse, semierect pile above and a patch of dense, white pile along the lateral margin. *Elytra* twice as long as broad, sides sinuate before the middle, and gradually narrowed posteriorly to blunt apex; the disk feebly convex, humeral umbone moderately prominent, the striae well impressed and rather coarsely, densely punctured in front and more finely punctured behind as well as confined to the striae; the intervals towards suture flattened, and convex towards sides and with a single row of fine punctures, from which arise very short gray setae, most evident apically. Beneath moderately coarsely, densely punctured on prosternum, very coarsely punctured on propleurae, more finely on abdomen, sparsely in front and densely behind, the apical segment with a short, transverse plate in front of apex, the center of all abdominal segments quite smooth and naked while the sides are clothed with a dense, silky, white pile as are also the meso and metapleurae. *Prosternum* at apex, feebly retracted, the center emarginate and with a prominent tooth on each side of the emargination. Length 8 mm., breadth 3 mm.

*Holotype* (No. 5439, Mus. Calif. Acad. Sci., Ent.), a unique collected at LAS ANIMAS, SIERRA LAGUNA, LOWER CALIFORNIA, October 12, 1941, by E. S. Ross and G. Bohart.

This very distinct, quadribalteate species probably belongs in the second or sinuate series of the *Acmaeodera*. It, however, stands more or less apart, its black or feebly metallic color, subcylindrical form, short, sparse elytral setae, and dense white pubescence at the sides of the ventral segments as well as the brilliant red spot at the sides of the elytra posteriorly, giving it a distinctive appearance.

#### *Acmaeodera nautica* Van Dyke, new species

Moderately elongate, somewhat flattened and cuneate; a bright blue above, the elytra ornamented with yellow as follows: a yellow line on the marginal interval just back of the humerus, a broad spot extending from the sixth interval to margin, at middle, a narrow transverse bar extending from the fourth interval to margin, half way between middle and apex, and two small marginal spots, one very small, in front of the last and another, somewhat larger near apex; the upper surface sparsely clothed with dark, erect pile, the under surface with much sparser, somewhat inclined gray pile. *Head* rather coarsely, densely punctured, feebly longitudinally impressed at middle; antennae reaching middle of prothorax, segments 5-11 serrate. *Prothorax* over twice as broad as long, slightly expanded in front of base where somewhat broader than

elytra, apex feebly biemarginate, sides subangulate, almost parallel behind, straight and convergent in front, the margin distinct, slightly reflexed, complete and readily seen from above; the disk coarsely, cribrately punctured at sides, less coarsely and densely medially, the median longitudinal impression well marked, the basal impressions small, foveiform, and distant from the hind angles. *Elytra* about twice as long as broad, sides feebly sinuate in front of middle, and feebly arcuate and gradually narrowed to blunt apex; the disk somewhat flattened with a moderate depression at base near suture, the humeral umbones distinct, the striae finely, sharply impressed at middle and finely, rather closely punctured, more broadly and deeply impressed at sides and with the punctures coarser, the intervals medially flattened and with a row of fine, well spaced punctures along their middle, the intervals at the sides quite convex. Beneath, a bluish black color, coarsely, rather densely punctured in front, very finely and sparsely on the abdomen. *Prosternum* feebly retracted in front, the shallow median emargination without marginal teeth. The last ventral segment without evident ventral plate near apex. Length 11 mm., breadth 4 mm.

*Holotype* (No. 5440, Mus. Calif. Acad. Sci., Ent.), a unique collected near LAFAYETTE, CONTRA COSTA COUNTY, CALIFORNIA, September 3, 1943, and submitted by Dr. E. G. Linsley.

This attractive species, because of its bright blue color, at first sight suggests *mariposa* Horn, but because of its shape and color pattern appears to approach more closely to *prorsa* Fall. The yellow maculations are of similar size and similarly placed. The species differs, though, from *prorsa* not only by being blue instead of bronze, but by being proportionally a bit shorter, with the prothorax less widely expanded, and the punctuation of the median areas of both pronotum and elytra far less coarse and dense.

#### *Agaeocera gentilis peninsularis* Van Dyke, new subspecies

This subspecies agrees with typical *gentilis* in regard to most fundamental characters but differs by being a little bit more robust and proportionally broader, of a dark bronze or cupreous color, both above and beneath, not a bright green as in *gentilis*, by having the head and pronotum more distinctly alutaceous and much more coarsely punctured and rugose, and the elytral intervals quite distinctly elevated and carinate towards suture and apex. Length 13 mm., breadth 5 mm; paratype length 16 mm, breadth 6 mm.

*Holotype* (No. 5441, Mus. Calif. Acad. Sci., Ent.), a specimen collected 15 miles N. of SAN IGNACIO, LOWER CALIFORNIA, Sep-

tember 29, 1941, and paratype, from TODOS SANTOS, LOWER CALIFORNIA, October 10, 1941, both collected by E. S. Ross and G. Bohart.

Most records that I have seen for typical *gentilis*, give western and southwestern Texas as its habitat. Sharp in the "Biologia Centrali-Americana," gives Coahuila and Villa Lerdo in Durango, Mexico. In the collection of the California Academy of Sciences, besides twelve Texas specimens, mostly from near El Paso, we have one from Grant County, N. Mexico (Coll. by R. T. Kellogg), and Mexican specimens from Lerdo (Fenyés Coll.) Torreon and Villa Juarez (Coll. by M. A. Embury). Near El Paso, I collected several specimens on a species of mallow. I know of no specimens from Arizona or the west coast of Mexico, though the very distinct *Agaeocera scintillans* Water. is found in southern Arizona, Sabino Canyon, as well as on the west coast of Mexico, the states of Sonora and Sinoloa, thus apparently wedging in between the two phases of *gentilis*. In time we may find that the two are in reality, geographically separated. In that case, we would be justified in elevating *peninsularis* to specific standing, but until we get more material, I feel that it is best to keep them as phases of the same species.

Since my review of the Buprestidae of Lower California (Proceed. Calif. Acad. Sc., Vol. 24, pp. 97-132, 1942), a second expedition has been made to that region by Dr. E. S. Ross, this time accompanied by George Bohart. This expedition besides securing the two new *Acmaeodera*, *lagunae* and *transversa*, described in the preceding pages, and the new subspecies of *Agaeocera*, added a number of new records to our list of Buprestidae from Lower California. They are as follows:

*Acmaeodera flavomarginata* Gray. San Pedro, 15 miles N. of San Ignacio, Las Animas, Sierra Laguna, San Venacio, and 20 miles N. of Comondo.

*Acmaeodera scapularis* Horn. Las Animas, San Venacio and Agua Caliente.

*Acmaeodera gibbula* Lec. Las Animas and 15 miles S. of San Domingo.

*Acmaeodera clausa* Horn. Pescadero.

*Acmaeodera opinabilis* Fall. Big Canyon, Sierra Laguna.

All of the above localities are in Lower California and all specimens collected in these localities were by Ross and Bohart and during October, 1941.



Additions to the Lower California list of species, overlooked in my previous paper, are:

*Paratyndaris olneya* (Skinner), 15 miles S. of San Domingo (Ross and Bohart Coll.). This species has generally been collected in various places in southern Arizona and several were taken at Jacumba, San Diego County, California, by W. F. Barr.

*Paratyndaris albofasciata* Knull, 25 miles S. of Santa Rosalia (Ross and Michelbacher Coll.). The type locality for this species is Tucson, Arizona.

*Taphrocerus schaefferi* Nicolay and Weise, Big Canyon, Sierra Laguna. (Ross and Bohart Coll.). This species has previously been collected in Southern Arizona, in the State of Sonora, Mexico, and on various islands in the Gulf of California as Santa Isabella Island (Academy Expedit. 1932).

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#### MIGRATION OF *VANESSA CARDUI* (LINN.)

The following observations on the spring movement of the painted lady, *Vanessa cardui* (Linn.), were made during 1945. For a fuller account of the habits of this butterfly see Williams (1930, *The Migration of Butterflies* xi - 473 pp. Oliver and Boyd, London). On April 16, 1945, adults of *Vanessa cardui* were observed flying in a northeasterly direction at numerous points in the vicinity of Mt. Diablo, Contra Costa County, California. No massed flights were observed but all individuals were flying in the same general direction. At a point 5 miles south of Antioch counts were made of the numbers passing a single station. The weather was clear and a breeze was blowing rather briskly from the northwest. At 3:00 p.m., 48 specimens passed a line about 70 yards wide in ten minutes. Another count along a road gave 26 specimens passing a line 100 feet wide. Most individuals were flying two to four feet above the ground although a few flew as high as twenty feet. They were flying approximately 20 m.p.h. Most of the specimens were worn. On April 23 the numbers were considerably reduced and by April 26 only an occasional specimen could be seen flying.—RAY F. SMITH AND E. GORTON LINSLEY.